# DIGITAL VNswitch 900GV

## Installation and Configuration

Part Number: EK–DVNGV–IN. A01

**September 1998**

This manual describes how to install and configure the DIGITAL VNswitch 900GV module.

**Revision Information:**         This is a new document.

**FCC Notice** — Class A Computing Device:
This equipment generates, uses, and may emit radio frequency energy. The equipment has been type tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of FCC rules, which are designed to provide reasonable protection against such radio frequency interference.
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Dieses ist ein Gerät der Funkstörgrenzwertklasse A. In Wohnbereichen können bei Betrieb dieses Gerätes Rundfunkstörungen auftreten, in welchen Fällen der Benutzer für entsprechende Gegenmaßnahmen verantwortlich ist.

**Avertissement!**
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# Preface

## Overview

### Purpose of the Manual

This manual describes how to install and set up the DIGITAL VNswitch 900GV
module. It also provides problem solving, connector and adapter, and pin assignment
information.

### Intended Audience

This manual is intended for use by personnel who will install and set up the DIGITAL
VNswitch 900GV module.

# Organization

This manual is organized as follows:

| Section | Description |
| --- | --- |
| Chapter 1 | Provides an overview of the DIGITAL VNswitch 900GV module and describes its features. |
| Chapter 2 | Provides instructions for installing the DIGITAL VNswitch 900GV module in a DIGITAL MultiSwitch 900 chassis. |
| Chapter 3 | Provides instructions for installing the setup port on the DIGITAL MultiSwitch 900 chassis. |
| Chapter 4 | Provides information on how to configure the DIGITAL VNswitch 900GV module in a DIGITAL MultiSwitch 900 chassis. |
| Chapter 5 | Provides information on how to remove the DIGITAL VNswitch 900GV module from the DIGITAL MultiSwitch 900 chassis. |
| Appendix A | Provides installation-specific problem solving information using the LEDs. |
| Appendix B | Provides connector and pin assignment information. |
| Appendix C | Provides product specifications and a parts list. |

# Associated Documents

The following documents provide related information. For information on how to order additional documentation, see the ordering information provided in this preface.

| Title and Order | Description |
| --- | --- |
| *DIGITAL VNswitch 900 Series Technical Overview* | Provides a technical overview of the VNswitch 900 family of high-density switching products. |
| *DIGITAL VNswitch 900 Series Switch Management* | Describes how to configure, monitor, and manage a VNswitch 900 series module. |
| *DIGITAL MultiSwitch 900 Owner's Manual* EK-DH2MS-OM | Provides installation, use, security, and troubleshooting information for the DIGITAL MultiSwitch 900 (formerly DEChub 900 MultiSwitch). |
| *clearVISN Installation* | Provides pre- and post-installation information, as well as actual installation procedures for each clearVISN application. |
| *clearVISN Overview* | Provides an overview of the clearVISN software, an explanation of each application, and descriptions of all concepts necessary to understand and use the applications efficiently. |
| *clearVISN User's Guide* | Provides information for starting and configuring each clearVISN application, and general use information. |
| *OPEN DECconnect Applications Guide* EC-G2570-42 | Provides information to help plan and install networking systems based on the DIGITAL OPEN DECconnect System and networking products. |
| *Event Logging System Messages Guide* | Describes messages logged by the Event Logging System. |
| *Bridge and Extended LAN Reference* EK-DEBAM-HR | Describes how bridges are used to create extended local area networks (LANs). The descriptions include the use of bridges in extended LAN configurations, information on LAN interconnections, overall bridge operation, spanning tree, bridge management, and solving bridge-related problems in a network. |

# Conventions

This book uses the following conventions.

| Convention | Description |
| --- | --- |
| **NOTE** | Contains information of special interest. |
| Special Type | Indicates system output in examples. |
| **Boldface** | Indicates user input in examples. |
| <Return> | Indicates that you should press the Return key. |

# Accessing Online Information

## Documentation Comments

If you have comments or suggestions about this document, send them to
**TechWriting@cabletron.com**

## Online Services

To locate product-specific information, refer to one of the following World Wide Web sites:

| | |
|---|---|
| Americas: | http://www.networks.digital.com <br> or <br> http://www.cabletron.com**/** |
| Europe | http://www.networks.europe.digital.com |
| Asia Pacific | http://www.networks.digital.com.au |

# Safety

## Overview

The cautions that must be observed for the hardware described in this manual are listed below in English, German, French, and Spanish. Any warning or caution that appears in this manual is defined as follows:

| | |
|---|---|
| **WARNING** | Contains information to prevent personal injury. |
| **CAUTION** | Contains information to prevent damage to equipment. |
| **VORSICHT** | Enthält Informationen, die beachtet werden müssen um den Benutzer vor Schaden zu bewahren. |
| **ACHTUNG** | Enthält Informationen, die beachtet werden müssen um die Gerate vor Schaden zu bewahren. |
| **DANGER** | Signale les informations destinées à prévenir les accidents corporels. |
| **ATTENTION** | Signale les informations destinées à prévenir la détérioration du matériel. |
| **AVISO** | Contiene información para evitar daños personales. |
| **PRECAUCIÓN** | Contiene información para evitar daños al equipo. |

| | |
|---|---|
| **CAUTION** | This action deletes all configured settings and replaces them with factory default values. All configuration settings will be lost. |
| **ACHTUNG** | Bei diesem Vorgang werden alle Konfigurationseinstellungen gelöscht und die Werkseinstellungen wieder eingesetzt. Alle Konfigurationsdaten gehen verloren. |
| **ATTENTION** | Cette action supprime tous les paramètres de configuration et les remplace par des valeurs prédéfinies. Tous les paramètres de configuration seront perdus. |
| **PRECAUCIÓN** | Esta intervención borrará todos los parámetros de configuración y los sustituirá por valores por defecto definidos de fábrica. Se perderán todos los parámetros de configuración. |

| | |
|---|---|
| **WARNING** | Some fiber optic equipment can emit laser or infrared light that can injure your eyes. Never look into an optical fiber or connector port. Always assume the cable is connected to a light source. |
| **VORSICHT** | Bestimmte Lichtleitergeräte können für die Augen gefährliches Laser- oder Infrarotlicht abstrahlen. Vermeiden Sie es daher unter allen Umständen, direkt in ein Lichtleiterkabel oder einen Lichtleiteranschluß zu schauen. Gehen Sie immer davon aus, daß Lichtleiterkabel mit einer Lichtquelle verbunden sind. |
| **DANGER** | Certains équipements à fibre optique peuvent émettre un rayonnement laser ou infra-rouge pouvant provoquer des troubles oculaires. Ne regardez jamais à l'intérieur d'une fibre optique ou d'un port de connecteur. Considérez que le câble est connecté en permanence à une source lumineuse. |
| **AVISO** | Ciertos equipos de fibras ópticas pueden emitir luz lasérica o infrarroja con riesgos de lesiones en los ojos. No se debe nunca mirar en una fibra óptica o una puerta de conexión. Siempre hay que suponer que el cable está conectado a una fuente luminosa. |

# Chapter 1

# Product Introduction

## Overview

This chapter describes the features of the DIGITAL VNswitch 900GV module.

For further technical information on the DIGITAL VNswitch 900GV, refer to the *DIGITAL VNswitch 900 Series Switch Management* and the *DIGITAL VNswitch 900 Series Technical Overview.*

## In This Chapter

This chapter contains the following topics:

| Topic | Page |
|---|---|
| **What is the DIGITAL VNswitch 900GV?** | **1-2** |
| **Features** | **1-3** |

## What is the DIGITAL VNswitch 900GV?

The DIGITAL VNswitch 900GV (also referred to in this manual as the module) is a single Gigabit Ethernet port switch that allows a Modular Media Interface (MMI) connection using industry standard GBIC (Gigabit Interface Connector). The Gigabit Ethernet port supports: Gigabit Ethernet Single-Mode Fiber (SMF), and Gigabit Ethernet Multi-Mode Fiber (MMF).

The DIGITAL VNswitch 900GV network module is a true backbone network switch that supports complete filtering (including source address, destination address, protocol type, and VLAN) for greater network control, increased security and bandwidth utilization, and reduced propagation of network problems.

The module includes a large address table (approximately 8,000 entries) and is fully IEEE 802.1d standards-compliant, ensuring the high performance and packet integrity required in large switched networks. The module's MMI port is IEEE 802.3z standards-compliant.

When installed into a MultiSwitch 900 chassis and connected to the VNbus, the module can function as an uplink for other DIGITAL VNswitch 900 series modules.

You can install and configure the module in a DIGITAL MultiSwitch 900 chassis. The module is fully interoperable with other modules when installed in the DIGITAL MultiSwitch 900 chassis.

# Features

This section describes the features of the DIGITAL VNswitch 900GV module. For further information, refer to the *DIGITAL VNswitch 900 Series Technical Overview*.

## Hot Swap

With hot-swapping capabilities, you can install or remove the DIGITAL VNswitch 900GV from a DIGITAL MultiSwitch 900 chassis without turning off the power of the DIGITAL MultiSwitch 900. The MMI cards, also hot-swappable, can be removed from the module without detaching the module from the chassis.

## Configuration and Management

The following configuration and management options are available:

- Auto-configuring at power-up.

- Support for up to 256 internal addresses for management and other purposes.

- Manageable via SNMP and the Command Line Interface (CLI) management via Telnet or an attached terminal device.

- Upgradeable device firmware (in nonvolatile flash memory) using TFTP with *clear*VISN Flash Loader.

- A built-in SNMP management agent. It supports a comprehensive graphical user interface (GUI) (using the *clear*VISN MultiChassis Manager) that is identical for both in-band and out-of-band management.

- Support for up to approximately 8,000 network addresses.

- User-configured rate limiting for broadcast and multicast packets by address and specified protocol.

- Serves as an uplink to Gigabit backbones for Ethernet, Fast Ethernet, FDDI and ATM modules installed in a MultiSwitch 900.

Features

## Bridging

The following bridging features and options are available:

- High-speed local traffic filtering and forwarding

- Compliant with spanning tree loop detection protocol, IEEE 802.1d

- Support for multiple spanning trees with the ability to turn off the spanning tree algorithm on an individual port

## Ethernet

The Ethernet feature supports the following:

- Full-duplex operation over Gigabit Ethernet port

- IEEE 803.2z pause control.

## SNMP

The DIGITAL VNswitch 900GV has a built-in SNMP agent and can be managed by any generic SNMP management application.

- SNMP support for GETs and for the following standard traps, along with many proprietary traps:

  — coldStart

  — warmStart

  — linkUp

  — linkDown

## MIBS

The following MIBs are supported:

— MIB II (RFC 1213)

— Interfaces MIB (RFC 1573)

— Bridge MIB (RFC 1493)

— DIGITAL VLAN V1 MIB

— DIGITAL VLAN V2 MIB

— DIGITAL Comet MIB

— Proteon MIB

— Ethernet MIB (RFC 1643)

— DIGITAL Public Common MIB (pcom)

— DIGITAL Internal Common MIB (icom)

— DIGITAL ELAN Vendor MIB V3.0 (elan MIB)

— RMON MIB RCFs

— DIGITAL VLAN MIB V1

## RMON

The DIGITAL VNswitch 900GV supports the following RMON groups:

- Events
- Alarms
- Statistics
- History

## VLAN Secure Domains

The VLAN Secure Domains (VSD) support has the following features:

- Ability to group ports into VSDs

- Ability to join VSDs in different modules in the DIGITAL VNswitch family across the VNbus

- Support of port groups within a MultiSwitch 900 to create larger distributed multicast domains

- Support for as many as 32 port-based VSDs across each VNbus

- Support for multiple spanning trees per module, one per VSD

For further information, refer to the *clearVISN User's Guide*, the *clearVISN Overview*, or the *DIGITAL VNswitch 900 Series Technical Overview* manual.

# Chapter 2

# Installing the DIGITAL VNswitch 900GV

## Overview

### Introduction

This chapter describes the front and back panel components of the DIGITAL VNswitch 900GV module and provides the tasks for installing the module into a DIGITAL MultiSwitch 900 chassis.

### In This Chapter

This chapter contains the following topics:

| Topic | Page |
|-------|------|
| **Module Components** | **2-2** |
| **How to Install the Module** | **2-5** |

# Module Components

The following sections describe the front and back panel components for the DIGITAL VNswitch 900GV module.

For more information about the module's LEDs, refer to Appendix A.

## Front Panel Components

**Figure 2-1** shows the front panel components and **Table 2-1** describes them.

**Figure 2-1: Front Panel LEDs and Connectors**
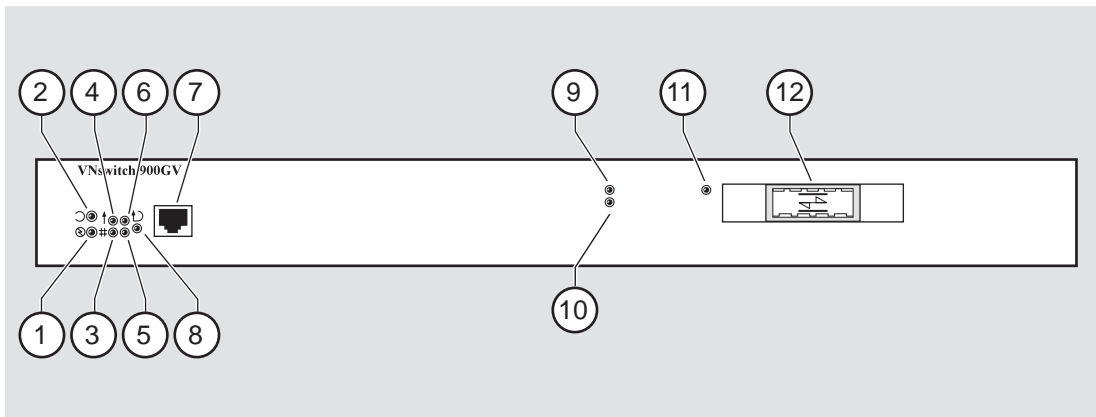


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**Table 2-1: Front Panel LEDs and Connectors**

| Item | Icon | Name | Description |
|------|------|------|-------------|
| 1 | | Power LED | Lights when the module has power. |
| 2 | | Module OK LED | Lights when the module passes self-test. |
| 3 | | VNbus Status LED | Shows if the module is properly attached to a VNbus backplane. [1] |
| 4 | | VNbus Activity LED | Indicates network traffic.[1] |

(continued on next page)

| Item | Icon | Name | Description |
|------|------|------|-------------|
| 5 | | Load/Dump/Management(LDM) Port Status LED | Indicates the link status of the Load/Dump/Management port. |
| 6 | | LDM Activity LED | Indicates when the LDM port is transmitting or receiving packets. |
| 7 | | LDM Port | Dedicated 10BaseT Ethernet port. Supports upline dump. (A dump entry must be set up in config_acct in order for the dump to occur.) This port is wired as a straight-through connector. |
| 8 | | Reset/Dump Button | Used to either reset the module or perform an upline dump, followed by a reset. (A dump entry must be set up in config_acct in order for the dump to occur.) If this button is pressed as operational code initializes, the module will reset to current settings. If the module is in operation mode, hold the button for five seconds. Use a non-conductive device to press the button. |
| 9 | | Port Activity LED | Indicates network traffic level. |
| 10 | | Port Status LED | Shows the status of the ports. Indicates if the port is enabled or disabled and receiving a valid link. |
| 11 | | FRU LED | Indicates the GBIC is a Field Replacable Unit (FRU). |
| 12 | | MMI port for Gigabit Ethernet connectors | Support for Gigabit Ethernet Multi-Mode Fiber (MMF), Gigabit Ethernet Single-Mode Fiber (SMF). The GBIC connectors are color coded: black for shortwave and blue for longwave. |

[1] The VNbus Status and Traffic LEDs display different indications during a load state. Refer to the release notes for current descriptions.

## Back Panel Components

**Figure 2-2** shows the front panel components and **Table 2-2** describes them.

**Figure 2-2: Back Panel Components**
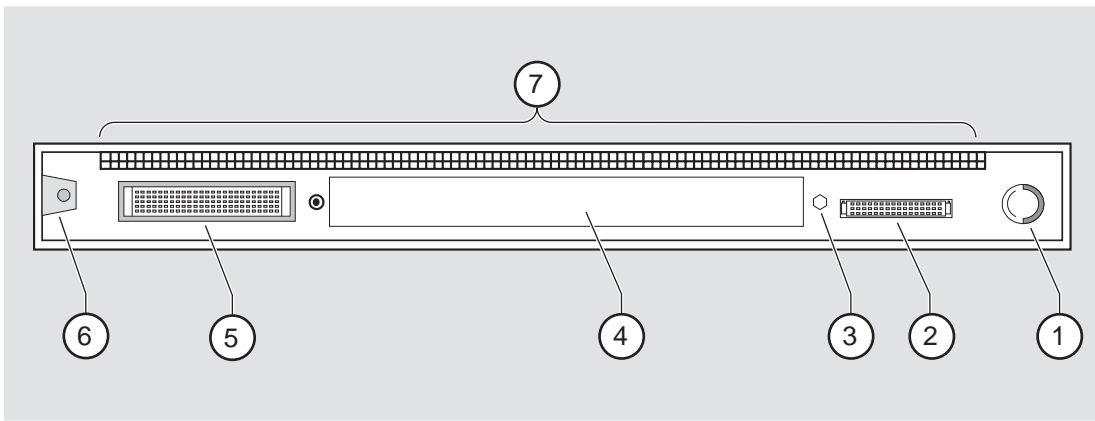


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**Table 2-2: Back Panel Components**

| Item | Name | Description |
|------|------|-------------|
| 1 | Locking tab | Locks the module into a MultiSwitch 900 backplane. Contains the hot-swap switch lever. |
| 2 | 48-pin connector | Provides network and power connections to the module when the module is installed in a MultiSwitch 900. |
| 3 | Grounding bolt | Provides a chassis grounding connection between the module and the MultiSwitch 900. |
| 4 | Manufacturing label | Lists the module's part number, serial number, revision level, and power requirements. |
| 5 | 160-pin connector | Provides network and power connections to the module when the module is installed into a MultiSwitch 900. |
| 6 | Mounting tab | Secures the module when it is installed into a MultiSwitch 900. |
| 7 | Grounding fingers | Provide additional chassis grounding between the module and a MultiSwitch 900. |

# How to Install the Module

The hot-swap feature allows you to install the module into the DIGITAL MultiSwitch 900 without turning off power. Seating the module initiates the power-up.

To install the module, complete the following tasks.

## Task 1: Compare the Power Ratings

Compare your module's power requirements (**1**) with the values shown in the Chassis Manager (**2**) status display (**Figure 2-3**).

If any of the module's power requirements exceed the values shown in the status display, add another power supply (see the *DIGITAL MultiSwitch 900 Owner's Manual*).

**Figure 2-3: Sample Power Ratings**
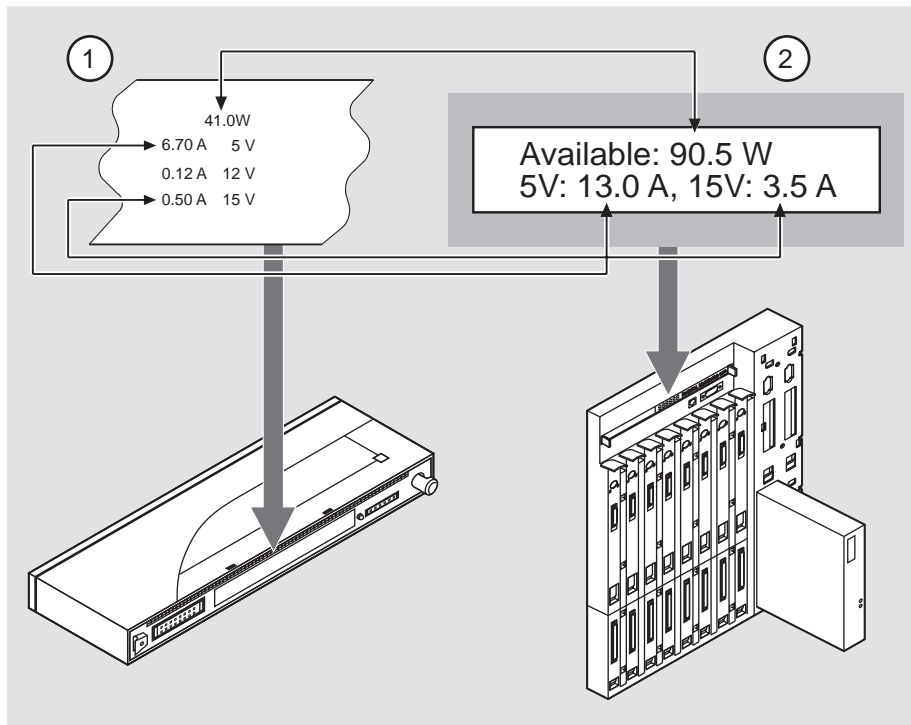


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## Task 2: Seat the Module

To seat the module into a DIGITAL MultiSwitch 900 (**Figure 2-4**), complete the following steps:

| Step | Action |
|------|--------|
| **1** | Place the module's mounting tab **(1)** into a mounting slot on the DIGITAL MultiSwitch 900. |
| **2** | Pull up the release lever **(2)** to its unlocked position. |
| **3** | Pivot the module on the mounting tab, align the connectors, and firmly push the module onto the backplane connectors. |
| **4** | Press down the release lever **(3)** to ensure that it is locked. |

**Figure 2-4: Seating the Module**
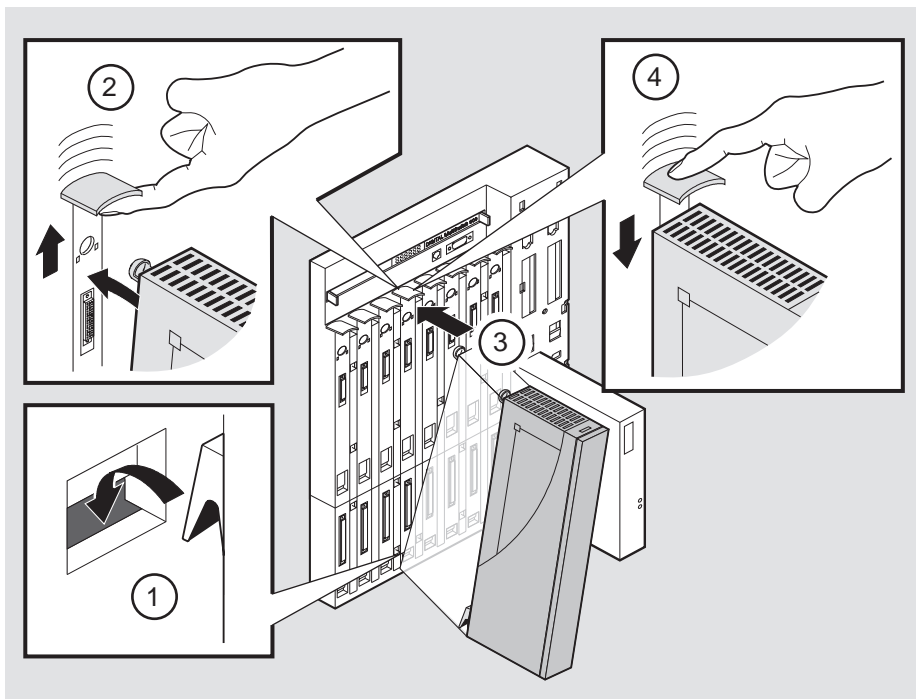


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## Task 3: Verify Initial LED Operation

| If… | Then… |
|---|---|
| This is a new installation | Turn on the power to the DIGITAL MultiSwitch 900. |
| The module was installed while the DIGITAL MultiSwitch 900 is powered up | Seating the module initiates the module's power–up sequence. |
| | If the LEDs do not operate as described, refer to Appendix A, Problem Solving. |
| | For locations of the module's LEDs, refer to **Figure 2-1**. |

To verify initial LED operation, check the following stages:

| Stage | Description |
|---|---|
| 1 | When the module receives power, the module's Power LED lights and remains lit. |
| 2 | The module runs a self–test. |
| | Note: The initial self-test takes approximately three minutes to complete. |
| 3 | After the module completes self-test, the Module OK LED lights and remains lit. |
| 4 | The DIGITAL MultiSwitch 900 LCD display shows VNswitch 900GV. |

## Task 4: Connect the LDM Port Cable

To perform a remote dump, the LDM cable must be connected to the LDM port. The LDM port uses straight-through, 10BaseT, 8-pin MJ connectors.

To connect the LDM port cable to the LDM port (**Figure 2-5**), complete the following steps:

| Step | Action |
| --- | --- |
| **1** | Align the release tab on the cable plug (**1**), with the keyway on the module's 10BaseT port connector. |
| **2** | Insert the plug into the connector, ensuring that the release tab snaps into the locked position. |

**Figure 2-5: LDM Port Cable Connection**
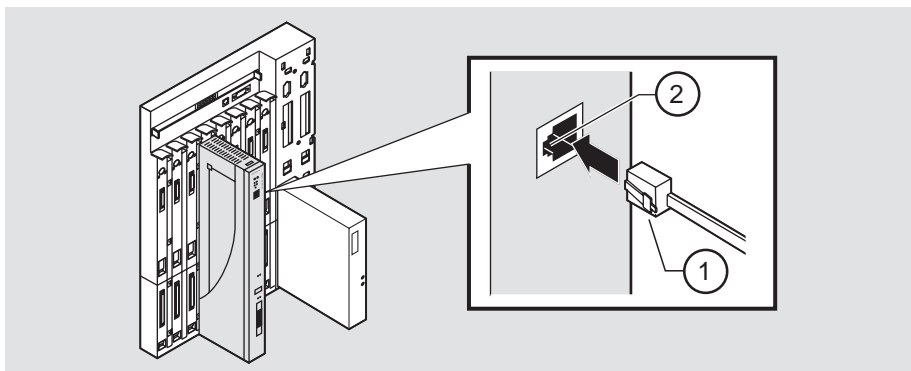


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## Task 5: Connect the GBIC Connector

The DIGITAL VNswitch 900GV uses a Gigabit Interface Converter (GBIC) connector.

To connect the GBIC connector (**Figure 2-6**), complete the following steps:

| Step | Action |
| --- | --- |
| **1** | Select the appropriate GBIC as listed in the section titled **Task 6: Connect the Duplex SC Cables**. |
| **2** | Align the release tab on the cable plug **(1)**, with the keyway on the module's GBIC port connector. |
| **3** | Insert the plug into the connector, ensuring that the release tab snaps into the locked position. |

**Figure 2-6: GBIC Connection**
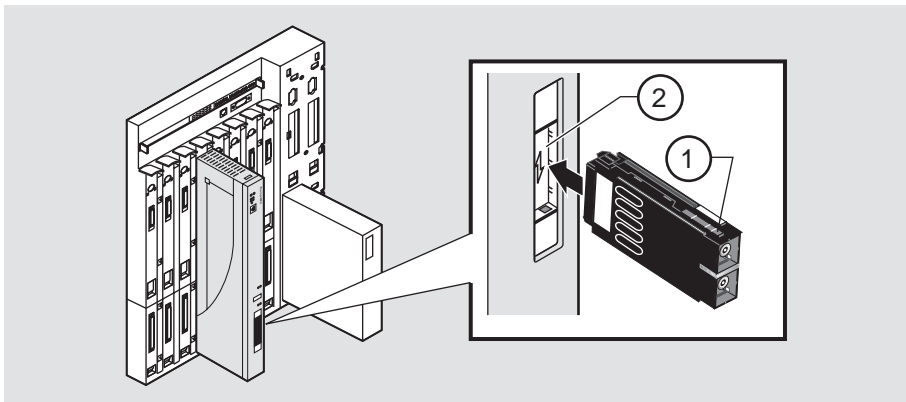


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## Task 6: Connect the Duplex SC Cables

The DIGITAL VNswitch 900GV uses both Single-Mode Fiber (SMF) and Multi-Mode Fiber (MMF) port connectors.

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**WARNING**

Some fiber optic equipment can emit laser or infrared light that can injure your eyes. Never look into an optical fiber or connector port. Always assume the cable is connected to a light source.

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**Table 2-3** and **Table 2-4** describe supported Short Wave Length and Long Wave Length cable distances.

**Table 2-3:  Short Wave Length - Black (HP 5601 - 850)**

| Fiber Size | Fiber Bandwidth | Distance |
|---|---|---|
| 62.5 Microns (MMF): | 160MHz per Kilometer | 2 to 220 Meters |
|  | 200MHz per Kilometer | 2 to 275 Meters |
| 50.0 Microns (MMF) | 400MHz per Kilometer | 2 to 250 Meters |

**Table 2-4:  Long Wave Length - Blue (HP 5611 - 1300)**

| Fiber Size | Fiber Bandwidth | Distance |
|---|---|---|
| 62.5 Microns (MMF) | 500MHz per Kilometer | 2 to 550 Meters* |
| 50.0 Microns (MMF) | 400MHz per Kilometer | 2 to 550 Meters* |
| 10.0 Microns (SMF) |  | 2 to 5,000 Meters |

* requires offset launch fiber jumper

MMF indicates Multi Mode Fiber

SMF indicates Single Mode Fiber

# Chapter 3

# Installing the Setup Port Cable

## Overview

### Introduction

The setup port on the DIGITAL MultiSwitch 900 chassis allows you to access and set DIGITAL VNswitch 900GV parameters. This chapter describes how to access the module from the DIGITAL MultiSwitch 900 setup port and how to set those parameters.

### In This Chapter

This chapter contains the following topics:

| Topic | Page |
|---|---|
| Setup Port Signaling Standards | 3-2 |
| Setup Port Device Cabling | 3-2 |
| Connecting to the Setup Port | 3-3 |

# Setup Port Signaling Standards

Signals from the MultiSwitch 900 Chassis Manager setup port conform to the EIA-232D signaling standard at 9600 baud. To the user, the port appears as a data terminal equipment (DTE) device.

The MultiSwitch 900 Chassis Manager setup port is compatible with devices that use the EIA-423 signaling standard.

# Setup Port Device Cabling

The setup port (**Figure 3-1**) on the DIGITAL MultiSwitch 900 chassis can be connected to a setup port device (a terminal or personal computer) by using the following cables and adapters:

| If the setup port device is… | Use this cable… | With this adapter… |
| --- | --- | --- |
| PC with a 9-pin D-sub communications port | BN24H-*xx*[1] | H8571-J |
| Terminal with a 25-pin D-sub connector | BN24H-*xx*[1] | H8575-A |
| Terminal with a 6-pin MMJ connector | BN24H-*xx*[1] | Not required |

[1] xx indicates cable length in meters

For further information on available connectors pin assignments, and adapters used with this product, refer to Appendix B.

# Connecting to the Setup Port

To connect to the setup port on the module, complete the following steps:

| Step | Action |
|------|--------|
| **1** | Ensure that the transmit and receive baud rates on the setup port device are set to 9600 baud, 8-bits, no parity. |
| **2** | Connect the setup port device to the setup port connector on the DIGITAL MultiSwitch 900. |

The following legend identifies the setup port cabling in **Figure 3-1**:

| Item | Description |
|------|-------------|
| **1** | Out-of-Band Management (OBM) Port |
| **2** | Setup Port |
| **3** | Setup Port Cable |
| **4** | Setup Port Device |

**Figure 3-1: Setup Port Cabling Components**



DIGITAL MultiSwitch 900
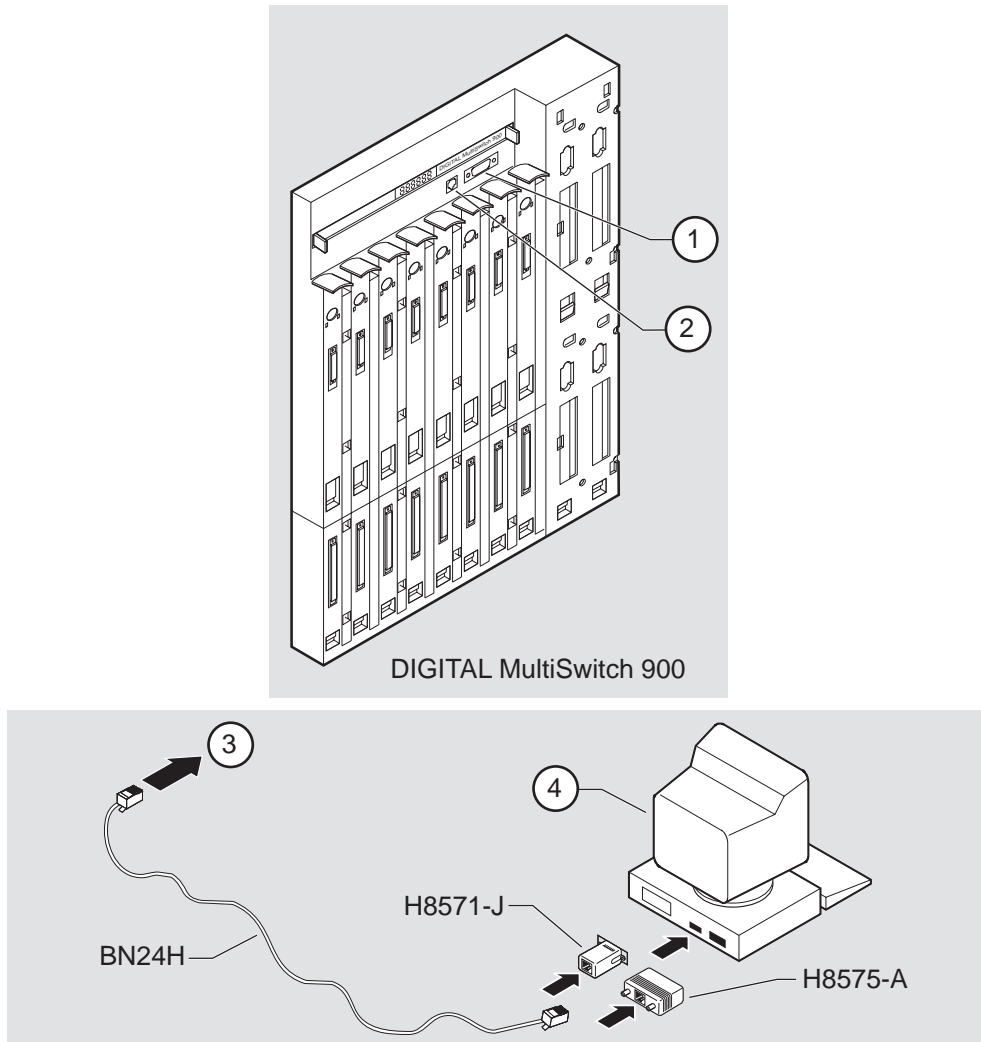
After all cables are connected, go to Chapter 4.

# Chapter 4

# Configuring the Module in a DIGITAL MultiSwitch 900

## Overview

### Introduction

This chapter describes how to configure your DIGITAL VNswitch 900GV module when it is installed in a DIGITAL MultiSwitch 900 chassis.

### In This Chapter

This chapter contains the following topics:

# Assigning an IP Address

After installing the module in a DIGITAL MultiSwitch 900 chassis and connecting the cables, you need to assign an IP address. Do this using the command line interface, which is accessed through a terminal connected to the setup port on the MultiSwitch 900 chassis.

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**NOTE**

The VNbus does not connect to the backplane by default. The VNbus is configured using the *clear*VISN MultiChassis Manager.

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To perform a Telnet session, you must assign an IP address. To do this, complete the following steps:

| Step | Action |
|------|--------|
| **1** | Install the module into a slot on the DIGITAL MultiSwitch 900. |
| **2** | Redirect the DIGITAL MultiSwitch 900 Chassis Manager setup port to the DIGITAL VNswitch 900GV slot. |
| **3** | Select the IP Configuration option from the menu. |
| **4** | Set the in-band IP address. |
| **5** | Set the default gateway, if necessary. |
| **6** | Return to the VNswitch 900GV INSTALLATION MENU and select [2] Restart with Current Settings. |
| **7** | Open a Telnet session into the module from the management station for further configuration. The system displays copyright statements and the following prompt: |

```
 MOS Operator Control
Main>
```

After the system prompt (Main>) appears, refer to the *DIGITAL VNswitch 900 Series Switch Management* for further configuration information.

# DIGITAL MultiSwitch 900 INSTALLATION MENU

The following example shows the DIGITAL MultiSwitch 900 INSTALLATION MENU.

To access the module's setup screen, you must choose option [9] Start Redirect Mode.

```
DIGITAL MultiSwitch 900
========================================================
        DIGITAL MultiSwitch 900 INSTALLATION MENU

        [1]  Restart with Factory Defaults
        [2]  Restart with Current Settings
        [3]  Show Current Settings
        [4]  Configure IP ...
        [5]  Dump Error Log
        [6]  Downline Upgrade
        [7]  Configure Out-of-Band Port ...
        [8]  Start Event Display Mode
        [9]  Start Redirect Mode
        [10] Product-Specific Options ...

========================================================
     Enter selection number: 9 <Return>

           Press Return for Main Menu ...
```

# [9] Start Redirect Mode

The Start Redirect Mode option redirects the DIGITAL MultiSwitch 900 Chassis Manager setup port to the setup port of any network module (such as the DIGITAL VNswitch 900GV) that is installed into the MultiSwitch 900. This option allows you to configure or obtain status of an installed network module by accessing the specified network module's installation menu.

After you choose the Start Redirect Mode option from the DIGITAL MultiSwitch 900 INSTALLATION MENU, the screen prompts you for a slot number, as shown in the following example. After you enter the number of the slot in which the DIGITAL VNswitch 900GV is installed, the console is redirected to this slot.

---

**NOTE**

The slot number may change to reflect the slot number in which your module is installed.

---

The following example shows you how to redirect the console to a specific slot:

```
Enter the slot number for redirection (1-8):   3 <Return>

Console redirected to 3: VNswitch 900GV

Attempting connection [Ctrl/C to Abort]...
```

If the redirection is successful, after you press Return, the VNswitch 900GV INSTALLATION MENU appears on your screen. If redirection is not successful, for example, you entered a number for an empty slot, you can press Return to start again at the DIGITAL MultiSwitch 900 INSTALLATION MENU.

## Using Menus to Configure the Module

The following screen shows the options available from the VNswitch 900GV INSTALLATION MENU when the module is operating in a MultiSwitch 900 configuration. Depending on the configuration state of the module, some options may not appear.

Note that when your module is installed in the MultiSwitch 900, the slot number where the module is installed appears at the top of the menu.

```
  VNswitch 900GV - slot 3
 ==============================================================

            VNswitch 900GV INSTALLATION MENU

          [1]  Restart with Factory Defaults
          [2]  Restart with Current Settings
          [3]  Show Current Settings
          [4]  Configure IP
          [5]  Go to Local Console
          [6]  Product-Specific Options...

   [Ctrl/C] Return to Chassis Manager Installation Menu

 ==============================================================
      Enter selection:  n  <Return>
```

　
# [1] Restart with Factory Defaults

This option reboots the module, causing its configured Nonvolatile Random Access Memory (NVRAM) parameters to be initialized to factory default values followed by a module reset. Allow approximately three minutes for the module to reboot and complete self-test. To reset the module without losing the settings, use option [2] Restart with Current Settings.

---

**CAUTION**

This action deletes all configured settings and replaces them with factory default values. All configuration settings will be lost.

---

The following example shows the dialog associated with this option:

```
 VNswitch 900GV - slot 3
 ============================================================

              RESTART WITH FACTORY DEFAULTS


  * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
          IMPORTANT!    IMPORTANT!    IMPORTANT!
  * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
     This selection will delete the current configuration
     settings and reset the system with the factory default
     settings. All configuration settings will be lost.
   * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
 ============================================================
      Press Y to confirm [N]:   <Return>

      Press Return for Main Menu...
```

# [2] Restart with Current Settings

This option resets the module but leaves the module's configured nonvolatile configuration storage parameters at their current values.

---

**NOTE**

Because this option restarts only the module, and leaves storage parameters configured at their current values, the module's restart process takes only 1 minute.

---

The following example shows the dialog associated with this option:

```
 VNswitch 900GV - slot 3
 =============================================================

                   RESTART WITH CURRENT SETTINGS

  This selection will reset your system with the current
   configuration settings.
 =============================================================

Press Y to confirm [N] :   <Return>

Press Return for Main Menu...
```

# [3] Show Current Settings

This option shows the module's current settings. If the module is being configured for the first time, some fields will be blank. The read/write community name is case sensitive.

The following example shows the display associated with this option:

```
 VNswitch 900GV  - slot 3

 ====================================================================
 VNswitch 900GV, 1 GigabitEth, DME Pass 4, HW=,RO=x,#525, SW=V2.2

  SysUpTime                         : 6 days 00:03:18   2 resets
 SNMP Read/Write Community      : public
 SNMP Trap Addresses            : None Configured
 Deafult Gateway:               : Not configured
 Interface      IP Address      Subnet Mask      Other Info

 In-Band        16.20.216.91    255.255.255.0    08-00-2B-A6-0E-05

 OBM Port       16.20.66.156    255.255.255.0    Speed 9600 bps

 ====================================================================
        Press Return for Main Menu...
```

# [4] Configure IP

This option provides you with IP configuration selections.

---

**NOTE**

For any of the IP Configuration menu options to take effect, the module needs to be reset. Use `[2] Restart with Current Settings` from the `VNswitch 900GV INSTALLATION MENU`. Allow approximately 1 minute for the module to restart and complete self-test. (Because this option restarts only the module, and leaves storage parameters configured at their current values, the module's restart process takes only 1 minute.)

---

The following example shows the dialog associated with this option:

```
VNswitch 900GV - slot 3

==========================================================
                  IP CONFIGURATION
   * * * * * * * * * * * * * * * * * * * * * * * * * *  *
   * Configuration will not take effect until module is *
   * restarted.                                          *
   * * * * * * * * * * * * * * * * * * * * * * * * * *  *

         [1]  Set SNMP Read/Write Community
         [2]  Add SNMP Trap Address
         [3]  Delete SNMP Trap Address
         [4]  Set In-Band Interface IP Address
         [5]  Set Out-of-Band Interface IP Address
         [6]  Set Default Gateway
         [7]  Return to Main Menu
==========================================================
      Enter selection number : n    <Return>
```

The following pages describe the IP Configuration options:

| Topic | Page |
|---|---|
| **[1] Set SNMP Read/Write Community** | **4-11** |
| **[2] Add SNMP Trap Addresses** | **4-12** |

[4] Configure IP

## [1] Set SNMP Read/Write Community

This option prompts you to enter the module's read/write community name. The community name can be used for read/write access control. The read/write community name is case sensitive. The default is `public`.

The following example shows the dialog associated with this option:

```
 VNswitch 900GV  -  slot 3
 ================================================================
                    SET SMNP READ/WRITE COMMUNITY

 Format:   The format for a community name is a string,
           consisting of 4 to 31 printable ASCII characters, that
           describes the relationship between an SNMP agent and
           one or more SNMP managers. The string defines the
           authentication mechanism that is employed to validate
           the use of the community by the sending SNMP entity.
 ================================================================
    Enter the community string [public] : <Return>

      Press Return for IP Configuration Menu...
```

## [2] Add SNMP Trap Addresses

This option prompts you to enter IP addresses to which the DIGITAL VNSwitch 900GV module sends SNMP traps. You can enter up to eight trap addresses. If one or more SNMP trap addresses were previously configured, the screen displays those addresses.

The format of an SNMP trap address is the standard 4-octet dotted decimal notation for an IP address, where each octet of the address is represented as a decimal value, separated by a decimal point (.), for example, `16.20.54.156`.

The following example shows the dialog associated with this option:

```
                    Enter selection : 2
 VNswitch 900GV - slot 3
 ================================================================
                 ADD SNMP TRAP ADDRESSES

 Format: The standard 4 octet dotted decimal notation in
         which each octet of the address is represented as a
         decimal value, separated by a '.' character.

                 example: 16.20.54.156


 ================================================================
 Configured SNMP Trap Addresses:  16.20.216.81              ①

          Enter a Trap address [ ]: 16.20.216.89 <Return>   ②

 Trap address added!  Enter a Trap Address [ ] : <Return>

          Press Return for IP Configuration Menu...
```

| Line | Field | Description |
|------|-------|-------------|
| ① | Configure SNMP Trap Addresses: **16.20.216.81** | This line appears only if the module has been previously configured. |
| ② | Trap address [ ] : **16.20.216.89 <Return>** | Enter the trap address that you have chosen, then press the **Return** key. |

## [3] Delete SNMP Trap Addresses

This option prompts you to select SNMP trap addresses for deletion from the community trap address table. If one or more SNMP trap addresses were previously configured, the screen displays those trap addresses.

The following example shows the dialog associated with this option:

```
                    Enter selection : 3
VNswitch 900GV - slot 3
===============================================================
                  DELETE SNMP TRAP ADDRESSES

Format: The standard 4 octet dotted decimal notation in which each
octet of the address is represented as a decimal value, separated
by a '.' character.

                  example: 16.20.40.156

===============================================================
Configured SNMP Trap Addresses        : 16.20.216.81              ①

        Trap address [ ] : 16.20.216.81 <Return>                  ②

Trap address deleted. Enter a Trap Address [ ] : <Return>

          Press Return for IP Configuration Menu...
```

| Line | Field | Description |
|------|-------|-------------|
| ① | Configure SNMP Trap Addresses: **16.20.216.81** | This line appears only if the module has been previously configured. |
| ② | Trap address [ ] : **16.20.216.81 <Return>** | Enter the trap address that you have chosen, then press the **Return** key. |

## [4] Set In-Band Interface IP Address

This option prompts you to change or enter the module's in-band IP address, subnet mask, and default gateway for the in-band interface. If an IP address was previously configured, the screen displays an in-band IP address. The factory default setting is no in-band address.

You do not need to configure the module with a subnet mask for SNMP communications with management stations located on the same subnet as the module.

The following example shows the dialog associated with this option:

```
 VNswitch 900GV - slot 3
 =================================================================

            IN-BAND INTERFACE IP ADDRESS CONFIGURATION

 Format: The standard 4 octet dotted decimal notation in which
          each octet of the address is represented as a decimal
 ·        value, separated by a '.' character.

                    example: 16.20.40.156

To delete the IP address, enter 0 in the appropriate address
field.

Interface      IP Address      Subnet Mask        Other Info

 In-Band       16.20.216.91   255.255.255.0    08-00-2B-A3-CD-08
 OBM Port      16.20.66.156   255.255.255.0    Speed 9600 bps

 =================================================================

 Enter the IP address [16.20.126.24] : 16.20.54.156 <Return>

 Enter the Subnet Mask [255.0.0.0] : 255.255.0 0 : <Return>

           Press Return for IP Configuration Menu.....
```

---

### NOTE

If Routing is enabled, you will be asked to supply an IFC number prior to entering an IP address.

---

## [5] Set Out-of-Band Interface IP Address

This option prompts you to change or enter the IP address and subnet mask for the out-of-band interface. The module does not need to be configured with a subnet mask for SNMP communications when management stations are on the same subnet as the module.

The format for these values is the standard 4-octet dotted decimal notation, where each octet of the address is represented as a decimal value, separated by a decimal point (.).

If the module is in a MultiSwitch 900, the OBM feature allows you to manage your module through the OBM port located on the MultiSwitch 900. To enable out-of-band management, you need to assign an OBM IP address.

The following example shows the dialog associated with this option:

```
VNswitch 900GV - slot 3
==================================================================

          OUT-OF-BAND INTERFACE IP ADDRESS CONFIGURATION


Format: The standard 4 octet dotted decimal notation in which
         each octet of the address is represented as a decimal
         value, separated by a '.' character.

.                   example: 16.20.40.156


 To delete the address, enter 0 in the appropriate address
 field.
==================================================================
Interface      IP Address      Subnet Mask      Other Info

In-band        16.20.216.91   255.255.255.0    08-00-2B-A3-CD-08

OBM Port       16.20.66.156   255.255.255.0    Speed 9600 bps
==================================================================
Enter the IP address [16.20.66.156] : 16.20.54.155 <Return>

Enter the Subnet Mask [255.255.255.0] : 255 255 192 0 <Return>

   Press Return for IP Configuration Menu...
```

[4] Configure IP

## [6] Set Default Gateway

This option sets the default gateway, if necessary. This is the address the module uses when communicating with a remote host. The default gateway address must be in the same subnet as your in-band address.

The following example shows the dialog associated with this option:

```
VNswitch 900GV - slot 3
=============================================================
          SET IN-BAND INTERFACE DEFAULT GATEWAY ADDRESS

Format: The standard 4 octet dotted decimal notation in which
        each octet of the address is represented as a decimal
        value, separated by a '.' character.

                      example: 16.20.40.156

    To delete the address, enter 0 in the appropriate
    address field.
 =============================================================
     Default Gateway [] : 16.126.16.254 <Return>

     Default Gateway Address Set.

        Press Return for IP Configuration Menu . . .
```

# [5] Go to Local Console

To perform additional configurations on the module, select [5] Go To Local Console from the VNswitch 900GV INSTALLATION MENU.

The system will display the copyright statements and the following prompt:

```
MOS Operator Control

Main>
```

From the Main> prompt, you can perform additional configuration. Refer to the *DIGITAL VNswitch 900 Series Switch Management* for further configuration information.

# [6] Product-Specific Options (VNswitch 900GV)

To view or clear the module's error log entries, select [6] Product-Specific Options from the VNswitch 900GV INSTALLATION MENU:

```
  VNswitch 900GV
 ============================================================

  VNswitch 900GV Product Specific Options

          [1]   Clear CRASH and DIAGNOSTIC Error Logs
          [2]   List CRASH and DIAGNOSTIC Error Logs
          [3]   Return to Main Menu


 ============================================================

          Enter selection:  n  <Return>
```

If you select [2] List CRASH and DIAGNOSTIC Error Logs, the screen shows the list of messages recorded to both logs. Select option [1] to clear the information in the logs. Select option [3] to return to the VNswitch 900GV INSTALLATION MENU.

# [10] Product-Specific Options (MultiSwitch 900)

This option provides product-specific selections when you are using a MultiSwitch 900. When selected, the option allows you to enable and disable the automatic VNbus connection.

```
DIGITAL MultiSwitch 900
========================================================

                PRODUCT-SPECIFIC OPTIONS

        [1] Enable/Disable Automatic VNbus Connection
        [2] Return to Main Menu

            Enter selection:
```

If you select the option [1] Enable/Disable Automatic VNbus Connection the following menu appears:

```
DIGITAL MultiSwitch 900
 ===================================================================
          ENABLE / DISABLE AUTOMATIC VNbus CONNECTION

 Enabling Automatic VNbus Connection means that certain backplane
 channels will be reserved for a VNbus. The channels will be reserved
 reserved as soon as this feature is Enabled, and will remain
 reserved until this feature is Disabled. When a VNswitch module
 is inserted into the chassis, it will connect automatically to the
 VNbus. The Enable function will return an error if backplane channels
 cannot be reserved due to existing conditions.


 Disabling Automatic VNbus Connection means that no backplane channels
 will be reserved for a VNbus. Inserting VNswitch modules will not
 create connections to a VNbus. If any VNswitch modules are
 connected to a VNbus when the Disable mode is selected, the VNbus
 will remain until the last VNswitch module is removed from the chassis.

 ===================================================================
Automatic VNbus connection is Enabled. Would you like to Disable it? [N]
        Press Return for Product-Specific Options Menu ...
```

# Chapter 5

# Removing the Cables, Connector and Module

## Overview

### Introduction

This chapter describes how to remove the DIGITAL VNswitch 900GV module, cables and connectors from a DIGITAL MultiSwitch 900 chassis.

### In This Chapter

This chapter contains the following topics:

| Topic | Page |
|-------|------|
| Removing the Cables | 5-2 |
| Removing the GBIC Card | 5-3 |
| Unseating the Module | 5-4 |

# Removing the Cables

Before the module is unseated, the LDM cables must be removed from the module. To remove the cables (**Figure 6-1** and **Figure 5-1**), complete these steps:

| Step | Action |
|------|--------|
| **1** | Push in the release tab **(1)** on the side of the connector. |
| **2** | Pull out the cable(s). |

**Figure 5-1: Removing the LDM Port Cable**
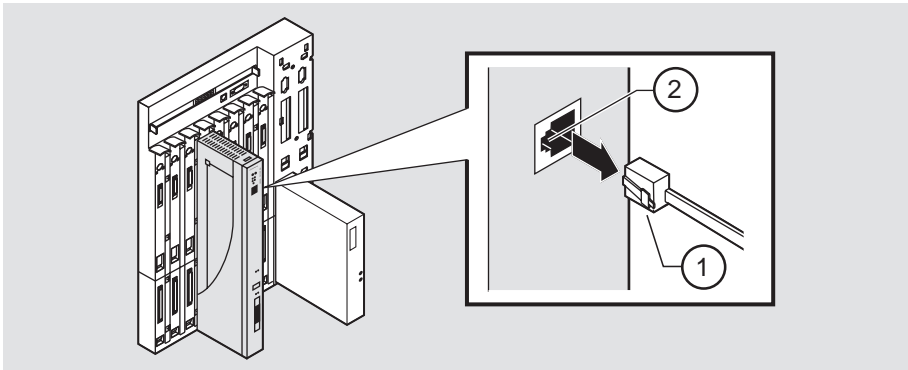


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# Removing the GBIC Card

The GBIC is hot-swappable and can be removed while the DIGITAL VNswitch 900GV has power. To remove the connector ( **Figure 5-2**), complete these steps:

| Step | Action |
|------|--------|
| **1** | Push in the release tab **(1)** on the side of the card. |
| **2** | Pull out the card. |

**Figure 5-2: GBIC Removal**
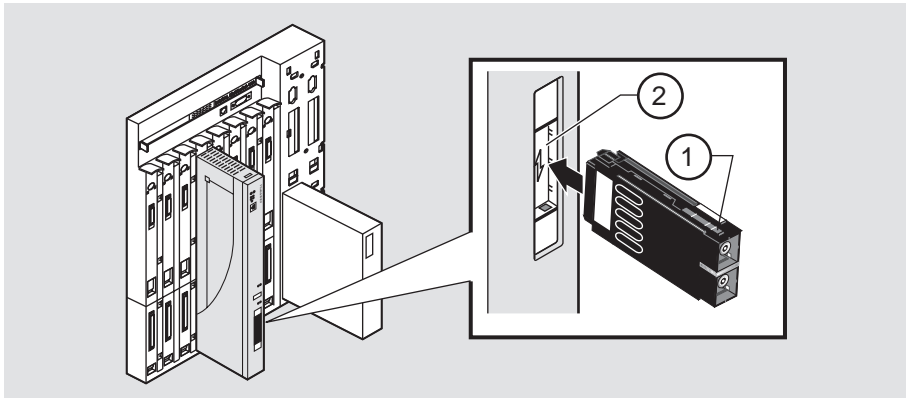


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# Unseating the Module

To unseat the module from the DIGITAL MultiSwitch 900 chassis (**Figure 5-3**), complete the following steps:

| Step | Action |
|------|--------|
| **1** | Lift the release lever **(1)** at the top of the DIGITAL MultiSwitch 900 slot. |
| **2** | While holding up the release lever **(2)**, pivot the module back on its bottom mounting tab. |
| **3** | Lift the module **(3)** from the backplane. |

**Figure  5-3:  Unseating the Module**
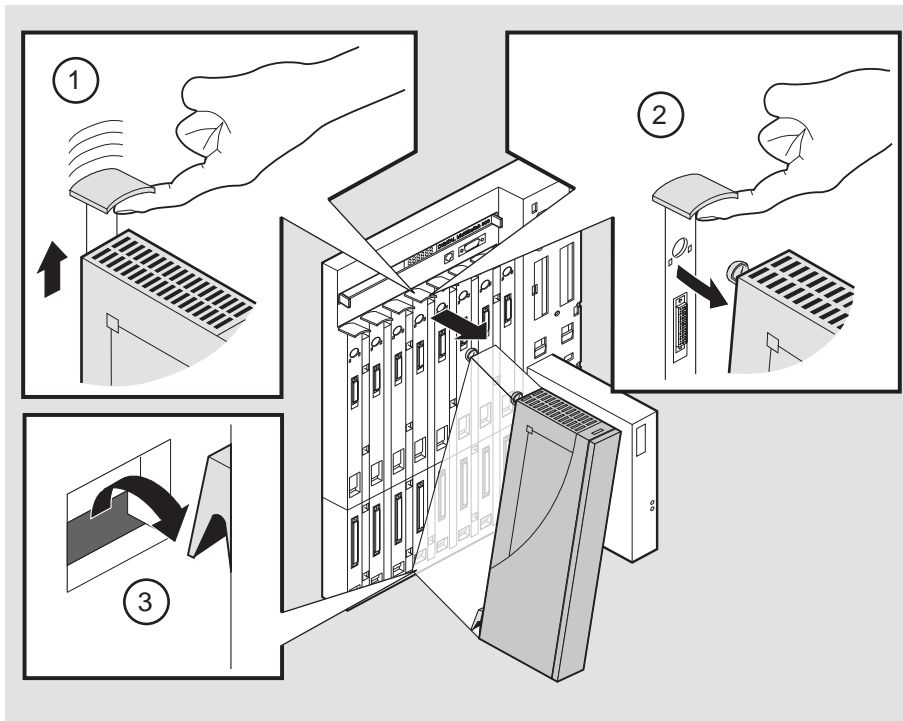


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# Appendix A

# Problem Solving

## Overview

### Introduction

This appendix describes how to diagnose and solve problems with the module using a light-emitting diodes (LED) displays.

### In This Appendix

This appendix contains the following topics:

# Normal Power-Up

When the module's power is initially turned on, the following events occur:

| Event | Description |
|-------|-------------|
| 1 | The module's Power LED lights as soon as power is applied to the unit. |
| 2 | The module initiates its built-in self-test. Flashing Port State LEDs and Port Activity LEDs indicate that the module is running various subroutines as part of the self-test. |
| 3 | After the successful completion of self-test (within three minutes after power is applied), the Module OK LED becomes lit. |
| 4 | The remaining LEDs now indicate their operational status. |

Refer to **Table A-1** for a list of LED states that are possible for each of the module.

# LED Descriptions

The module's LEDs provide dynamic indications of the module's status. The LEDs can be in various states (on, off, or flashing), and can change color (green or yellow) depending on the operational status of the module or the level of activity on the network.

**Table A-1** shows the states that are possible for each of the module's LEDs.

**Table A-1: Module LED States**

| LED | Off | On (Green) | On (Yellow) | Flashing |
|-----|-----|-----------|-------------|----------|
| Power LED | No power or not enough power available in the MultiSwitch 900. | Module is receiving power. | N/A | N/A |
| Module OK LED | Self-test has failed or is in progress. | Module passed self-test. | N/A | Indicates a downline load or a nonfatal failure. |
| VNbus Status LED | No connection. | Module is properly attached to one of the backplane VNbuses. | See release notes.[1] | **(Green)** VNbus is disconnected by management software. |
| VNbus Activity LED | No traffic. | N/A | Heavy traffic. See release notes.[1] | **(Yellow)** Port is receiving/ transmitting traffic on the backplane. |
| LDM Port Status LED | No link established. | Proper link established. | N/A | Disabled. |

[1] The VNbus Status and Activity LEDs have different indications during a load state. Refer to the release notes for current descriptions.

LED Descriptions

| LED Name | Off | On (Green) | On (Yellow) | Flashing |
|---|---|---|---|---|
| LDM Activity LED | N/A | Indicates high traffic. | N/A | Transmitting or receiving packets. |
| Port Status LEDs | No valid link being received on the port. No cable is attached. Port is broken. | Port is enabled onto the front panel and is receiving a valid link. | Port failure. | **(Green)** Port is management disabled for forwarding but is still receiving a valid link. |
| Port Activity LEDs | No traffic is being received/ transmitted to the port. | Port is enabled onto the front panel and is receiving a valid link. | N/A | **(Green)** Port is receiving/ transmitting traffic on the front panel. |

# Problem Solving Using LEDs

When diagnosing a problem with the module, note that the problem is often indicated by the combined states of the module LEDs. **Table A-2** lists the typical combined states of the LEDs for various error conditions that can occur during initial installation of the device, along with probable causes and corrective actions to take.

---

**NOTE**

If any of the following problems persist after taking corrective action, either replace the module or contact your DIGITAL service representative.

---

**Table A-2: Problem Solving Using the LEDs**

| Symptom | Probable Cause | Corrective Action |
|---|---|---|
| Power LED is off. | The module is not receiving +5 Vdc. | Check the power status on the Chassis Manager status display. |
| | | If the Chassis Manager status display indicates that power is available for this module, press the release lever and reseat or remove the module. |
| | | Inspect the module's 48- or 160-pin connector for bent or broken pins. If any are bent or broken, replace the module. |
| Module OK LED is off. | Self-test failed. | If the LED does not light within 3 minutes, lift and reseat the release lever momentarily to repeat the self-test. |
| Module OK LED is flashing, but module continues to operate normally. | A nonfatal error occurred. | Contact your DIGITAL service representative. |

| Symptom | Probable Cause | Corrective Action |
|---------|----------------|-------------------|
| VNbus Status LED is off. | No connection. | Check that the module is properly attached to one of the backplane VNbus channels and that the VNbus is connected by management software. |
| VNbus Activity LED is off. | There is low traffic activity or no traffic activity. | Ensure that there is traffic activity. If the VNbus Activity LED fails to turn on, then turn the module off momentarily by removing it from the power supply. Check that the VNbus Activity LED blinks momentarily during the LED power–up self–test. |
| | The module or any other unit in the MultiSwitch 900 may not be connected to an active VNbus channel. | Connect a known active VNbus channel to any unit in the MultiSwitch 900. |
| | If the module is connected to an active VNbus and the VNbus Activity LED is off, the module is defective. | Replace the module. |
| LDM Port Status LED is off. | No link established. | Check that a proper link has been established. |
| Port Status LEDs are off. | No cable attached or port is broken. | Check cable type. |
| Port Activity LEDs are off. | There is low or no port activity. | Ensure that the port is present. If the Port Activity LED stills fails to turn on, then turn the module off momentarily by removing it from the power supply. Check that the Port Activity LEDs blink momentarily during the LED power-up self-test. |
| | Ensure that the cable has activity on it. If the LED still fails to turn on, the module is defective. | Replace the module. |

# Appendix B

# Connector Pin Assignments and Adapters

## Overview

This appendix shows detailed illustrations of the connectors and their pin assignments (if applicable), and adapters used on the DIGITAL VNswitch 900GV module.

## In This Appendix

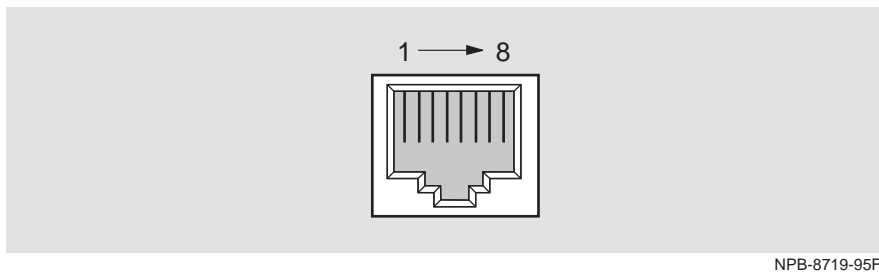This appendix contains the following topics:

# Connectors and Pin Assignments

## 10BaseT Port (8-pin MJ) Straight-through Connector

The DIGITAL VNswitch 900GV uses a straight-through connector for its LDM 10BaseT front panel port. **Figure B-1** shows the 8-pin MJ straight-through port connector and its pin assignments.

**Figure B-1: 8-pin MJ Straight-through Connector**



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**Table B-1** lists the pin assignments for the 8-pin MJ straight-through connector.

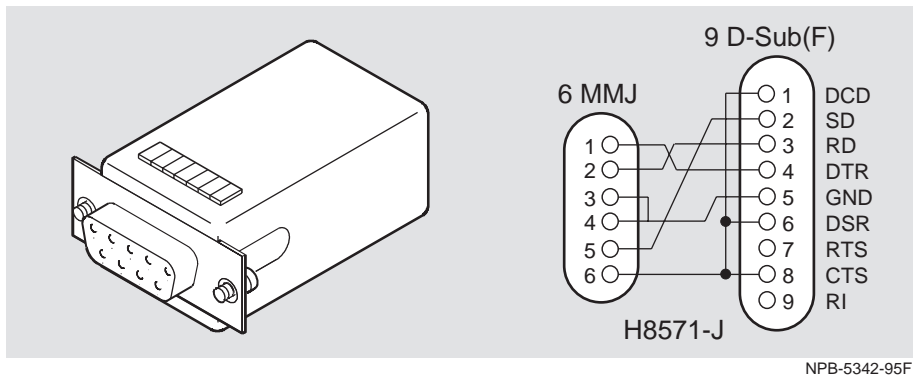**Table B-1: 8-pin MJ Straight-through Connector Pin Assignments**

| Pin | Assignment | Pin | Assignment |
|-----|-----------|-----|-----------|
| 1 | TX+ | 5 | NC |
| 2 | TX- | 6 | RX- |
| 3 | RX+ | 7 | NC |
| 4 | NC | 8 | NC |

# Adapters

## H8571-J Adapter

**Figure B-2** shows the H8571-J adapter (6-pin MMJ connector to 9-pin D-sub connector) and its pin assignments.
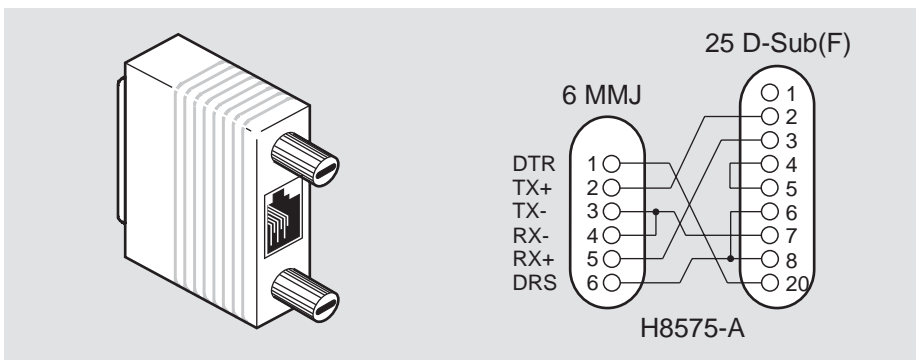
**Figure  B-2: H8571-J Adapter**



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## H8575-A Adapter

**Figure B-3** shows the H8575-A adapter (6-pin MMJ connector to 25-pin D-sub connector) and its pin assignments.

**Figure  B-3: H8575-A Adapter**



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# Appendix C

# Product Specifications

## Overview

This appendix lists the product and acoustical specifications for the DIGITAL VNswitch 900GV module. It also provides a list of connectors on the DIGITAL VNswitch 900GV module, the MultiSwitch 900 chassis.

### In This Appendix

This appendix contains the following topics:

| Topic | Page |
|---|---|
| Product Specifications | C-2 |
| Acoustical Specifications | C-3 |
| Connectors | C-4 |

# Product Specifications

**Table C-1** lists the product specifications for the module.

**Table  C-1: Product Specifications**

| Parameter | Specification |
| --- | --- |
| **Environment** | |
| Operating temperature[1] | 5°C to 50°C (41°F to 122°F) |
| Relative Humidity | 10% to 95% noncondensing |
| Altitude | |
| • Operating | Sea level to 4267 m (14,000 ft.) |
| • Nonoperating | Sea level to 12192 m (40,000 ft.) |
| Power | 41 W, total power |
| | 6.7 A, 5 Vdc<br>0.12 A, 12 Vdc<br>0.5 A, 15 Vdc |
| **Physical** | |
| Height | 44.45 cm (17.5 in) |
| Width | 4.45 cm (1.75 in) |
| Depth | 15.25 cm (6 in) |
| Weight | 1.57 kg (3.46 lb) |
| **Shock (Class A/B for products weighing under 100 lbs)** | 10 G / 10 ms half sine pulse in three orthogonal axes |
| **Vibration (Class C)** | 5 to 200 Hz sine sweep @ 0.25 G limited by 0.5mm (0.02 in) displacement DA* 200 to 500 Hz sine sweep @ 0.10 G |
| **Certification** | CE, CSA, FCC, TÜV, UL, VCCI, C-TICK |

[1] For sites above 2400 m (8,000 ft), decrease the operating temperature specification by 1.8°C for each 1000 m or 3.2°F for each 3200 ft·

# Acoustical Specifications

**Table C-2** lists the acoustical specifications for the module in English. **Table C-3** lists the acoustical specifications for the module in German.

**Table C-2: Acoustical Specifications**

**Declared Values per ISO 9296 and ISO 7779[1]**

| Product | Sound Power Level $L_{WAd}$, B | Sound Pressure Level $L_{pAm}$, dBA (bystander positions) |
|---|---|---|
| | Idle/Operate | Idle/Operate |
| DIGITAL VNswitch 900GV DVNGV | 5.0 | 37 |

[1] Current values for specific configurations are available from Cabletron Systems representatives. 1 B = 10 dBA.

**Table C-3: German Acoustical Specifications**

**Schallemissionswerte Werteangaben nach ISO 9296 und ISO 7779/DIN EN27779[2]**

| Produkt | Schalleistung-spegel $L_{WAd}$, B | Schalldruckpegel $L_{pAm}$, dBA (Zuschauer-positionen) |
|---|---|---|
| | Leerlauf/Betrieb | Leerlauf/Betrieb |
| DIGITAL VNswitch 900GV DVNGV | 5,0 | 37 |

[2] Aktuelle Werte für spezielle Ausrüstungsstufen sind über die Cabletron Systems Vertretungen erhältlich. 1 B = 10 dBA.

# Connectors

**Table C-4** provides a list of connectors for DIGITAL VNswitch 900GV module and the MultiSwitch 900 chassis.

**Table  C-4: Connectors**

| Connectors | Quantity |
|---|---|
| **DIGITAL VNswitch 900GV:** | |
| 8-pin MJ (10BaseT twisted pair) | 1 |
| duplex Giga-Bit Interface Converter (GBIC) | 1 |
| **DIGITAL MultiSwitch 900:** | |
| 8-pin MJ (setup Port) | 1 |
| DB-9 (OBM) | 1 |